



Meat Messenger

North Dakota State Meat and Poultry Inspection Program

2010 Quarter 2

Remaining Deer Samples Negative for CWD

This is an update of a NDG&FD news release

The remaining 1,000 North Dakota deer samples that were tested for chronic wasting disease and bovine tuberculosis are negative, according to Dr. Dan Grove, wildlife veterinarian for the North Dakota Game and Fish Department (NDG&F).

In all, more than 3,000 targeted and hunter-harvested samples from 2009 were sent to a lab in Minnesota. One mule deer taken last fall in unit 3F2 in western Sioux County tested positive for CWD, the first positive sample taken from a North Dakota animal.

Grove said one positive test result is not cause for alarm as the deer population remains healthy. “We’ve had a plan in place because of the presence of CWD outside of the state’s borders,” he added. “It is of high importance, however, that hunters continue to provide heads for testing.”

The deer population in unit 3F2 is above management goals, Grove said, so sampling efforts and hunter pressure will continue to be put on the population in the unit again this fall.

In addition to sampling 3F2, the NDG&FD will continue its three-year rotation of the Hunter-Harvested Surveillance program by sampling deer this fall from units in the eastern third of the state. In addition, all moose and elk harvested in the state, regardless of hunting units, are eligible for sampling.

Since the department’s sampling efforts began in 2002, more than 16,000 deer, elk and moose have tested negative for CWD.

CWD affects the nervous system of members of the deer family and is always fatal. Scientists have found no evidence that CWD can be transmitted naturally to humans or livestock.

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or visit the North Dakota Game and Fish website at www.gf.nd.gov.



Meat Messenger

is published by the
**The North Dakota
Department of Agriculture**

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New addition to NDMPIP staff

Julie Nilges

The North Dakota Meat and Poultry Inspection Program (NDMPIP) welcomes its newest inspector – Jerry Sauter of Grand Forks.



A Wyoming native, Jerry has lived in North Dakota since he was 8. He earned an associate's degree in science from Bismarck State College and a bachelor's degree in zoology from North Dakota State University. While in college, he worked with the United States Fish and Wildlife Service as a biological science technician.

Jerry enjoys playing slow pitch softball in the summer, and loves hunting in the fall and winter. He and his fiancée, Shannon, have a son.

Equipment and sanitation

Julie Nilges

The wear and tear on moving parts of meat processing equipment often results in replacement or extra attention at cleanup.

Here are the American Meat Institute's 10 principles of sanitary equipment design. Food equipment must be/have:

1. Cleanable to a microbiological level.
2. Made of compatible materials.
3. Accessible for inspection, maintenance, cleaning and sanitation.
4. No product or liquid collection.
5. Hermetically sealed hollow areas.
6. No niches.
7. Sanitary operational performance.
8. Hygienic design of maintenance enclosures.
9. Hygienic compatibility with other plant systems.
10. Validated cleaning and sanitizing protocols.

Anniversary Announcement

Julie Nilges

The 104 year anniversary of The Meat Inspection Act of 1906 and The Food and Drug Act of 1906, was celebrated on June 30.

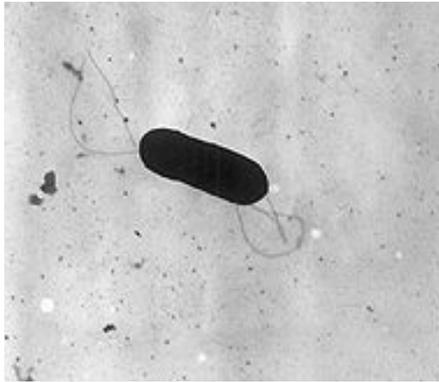
For more information and facts from the beginning of FSIS, visit Agency History at: www.fsis.usda.gov/About_FSIS/Agency_History/index.asp, or the North Dakota State Meat and Poultry Inspection Program's history at: www.agdepartment.com.

Know Your Bacteria (Part 3 of a 4 part series)

Julie Nilges

We have discussed E.coli bacteria and Salmonella in previous issues. Now let us look at Listeria and Clostridium botulinum, two micro-organisms that thrive in summer weather.

Listeria: Found in soil, stream water, sewage, plants, and food, *L. monocytogenes* has also been isolated in mammals, birds and fish. According to the FDA Bad Bug Book (www.fda.gov),



10 percent of humans can be carriers. Listeria can be found in raw foods – uncooked meats, raw vegetables, and non pasteurized milk – and ready-to-eat foods that are contaminated between cooking and packaging. It can survive freezing and drying.

According to USDA, (http://origin-www.fsis.usda.gov/PDF/Lm_Pouillot_062309.pdf), a few Listeria monocytogenes can replicate 10,000,000 bacteria per gram of product in a few days, depending on such factors as temperature, pH and the bacteria strain. Listeria can grow at a minimum temperature of 29°F and at pH levels from 4.5 to 9.6. Cross-contamination can occur very quickly beginning at the storage area (cooler) to processing areas, clothes, gloves, equipment, hands, food contact surface and non-food contact surface and back to storage.

A person must ingest food contaminated with the bacteria to become ill from *L. monocytogenes*. Those most at risk include pregnant women and their fetuses, the elderly and persons with weakened immune systems. Initial symptoms include fever, muscle aches, nausea and diarrhea. The infection can spread to the nervous system, causing headache, confusion, loss of balance and convulsions. Infections can cause miscarriages, stillbirth, early delivery and infected newborns. Symptoms may occur within 12 hours to up to three weeks. The bacteria can grow once it enters the bloodstream. Although infection fighting blood cells (phagocytic cells) can engulf and digest other cells

and microorganisms, Listeria can survive and replicate within the host cell. Up to 2,500 people annually suffer serious listeriosis, and as many as 500 die.

Listeria can be killed by pasteurization, cooking and using similar precautions to prevent other foodborne illnesses. Thoroughly washing hands before and after handling food and raw vegetables and cleaning food contact areas are recommended. Avoid letting fluids from hot dogs and deli meats contact other foods or food preparation surfaces. Only eat soft cheeses made from pasteurized dairy foods. More information can be found on www.fda.gov and www.cdc.gov.

Clostridium botulinum: Found in soil, sediments, mammal intestines, fish gills, crab viscera and other shellfish, this microorganism can produce a neurotoxin from a spore that is able to live without oxygen. Seven types of botulism are known; four – types A, B, E and F – are related to human foodborne botulism. As little as a few nanograms of Clostridium Botulinum toxin can cause food poisoning within 18 to 36 hours. Symptoms of weakness, vertigo, double vision and vomiting can progress to difficulty in speaking, swallowing and breathing with severe constipation. In severe cases botulism can cause paralysis leading to asphyxia and death.



Foods mostly often blamed for human botulism include meat products, notably sausage, canned vegetables and seafood. Spores will survive in foods that are not properly heated, improperly processed or are low in acidity. The toxin can be destroyed by heating the food to a temperature of 176°F (80°C) for longer than 10 minutes.

Only 10-30 outbreaks are reported per year, but if not diagnosed and treated with botulinum antitoxin the death rate can be very high.

Controlling Pest Problems and Appropriate Use of Chemicals

Julie Nilges

Meat processing establishments are required to control insect and animal pests in and around their facilities. They must also make sure that their products, employees, facilities or equipment are not contaminated by compounds used to control, repel, or destroy target pests.

The EPA must approve any pest control substance used in food processing environments. These products are usually toxic and should always be considered dangerous. Any meat or poultry establishment using a pesticide must follow the requirements of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA).

Remember: the label is the law! That means that any registered pesticide must be used in accordance with the EPA-approved label. There are no exceptions. Persons using a pesticide must have a copy of the label with them when applying the chemical.

Some guidelines:

- Do not apply during production hours.
- Properly store and clearly label all containers.
- Protect food, equipment and materials, including employee clothing, skin, or inhalation, from direct or indirect contamination by pesticide residues.
- Treated areas should be well ventilated to avoid drift that could cause accidental contamination.
- Remove trash, trim weeds and grass and having good drainage from outside the premises is necessary.

In addition to the EPA regulations, federal meat inspection standards require documentation substantiating the safety of a chemical's use in a food processing environment and must be available to inspection program employees for review.

Letters of guaranty or assurance substantiating compound safety and efficacy are appropriate for all chemicals used in food processing facilities. These letters should contain the following information:

1. Name and address of supplier
2. Brand name, code or other designation which uniquely identifies the compound. Identification should ensure that the specific chemical ingredients of the compound are traceable in the event of food contamination
3. Statement that the material will be safe and effective under the intended conditions of use and will not adulterate food product
4. Specification of the applicable limits, if appropriate, under intended conditions of use, and
5. Signature of an official of the supplying firm

For more information on the use of chemicals, please see these websites:

- www.fsis.usda.gov/OPPDE/rdad/frpubs/SanitationGuide.htm , or
- <http://vm.cfsan.fda.gov/~dms/foodcode.html> , or
- www.fsis.usde.gov/oppde/larc/compounds/cbpcriteria.html
- www.fda.gov/Food/FoodSafety/RetailFoodProtection/FoodCode/FoodCode2001/ucm089225.htm



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No insect control method is 100 percent effective, and alternative methods are widely available. Insect control devices that electrocute or stun flying insects and retain the insect fragments are an option. Plant operators should also consider biological control, using beneficial insects to control insect pests. One example is the use of tiny wasps, called *Trichogramma*, which are released during fly season to prevent various species of fly larvae from hatching. Several companies, such as Kunafin at www.kunafin.com, now offer biological pest management programs.

It looks done, is it?

USDA

A good question and the answer is all-too-often a guess-timate. But good cooks understand that knowing proper internal temperature is the key to serving succulent, juicy and safe, not overcooked, dried out, food. So know the temperature rules and use an accurate thermometer.

Food	°F
Ground meat & meat mixtures	
• Beef, pork, veal, lamb	160
• Turkey, chicken	165
Fresh beef, veal, lamb	
• Medium rare	145
• Medium	160
• Well done	170
Poultry	
• Chicken & turkey, whole	165
• Poultry breasts, roast	165
• Poultry thighs, wings	165
• Duck & goose	165
• Stuffing (inside or outside bird)	165
Fresh pork	
• Medium	160
• Well done	170
Ham	
• Fresh (raw)	160
• Pre-cooked (to reheat)	140
Eggs & egg dishes	
• Eggs: cook until yolk & white are firm	
• Egg dishes	160
Leftovers & casseroles	165



Color is not an indicator of doneness. According to the Food Safety Inspection Service, one out of every four hamburgers is brown in the middle before it reaches a safe internal temperature. More information is available at www.fsis.usda.gov/thermy or www.fsis.usda.gov/Food_Safety_Education/index.asp.

Enforcement of Meat Inspection Regulations

Dr. Andrea Grondahl

In the 2009 third quarter newsletter I reported the passage of a bill that granted fining authority to the North Dakota Meat and Poultry Inspection Program for violations of meat inspection laws and regulations. The intent of fining authority is to achieve compliance and deter future violations. Before the ND-MPIP had this authority, we had only two options in handling violations: criminal prosecution or issuance of a warning letter. These two options did not allow for effective compliance because most violations are not deemed serious enough to warrant criminal prosecution. On the other hand, several warning letters are usually not a strong enough deterrent to prevent future violations. This new law allows for some middle ground.

A penalty matrix has been established by the ND-MPIP to effectively and properly use our fining authority. A first time violation of a meat inspection regulation or law will result in the issuance of a warning letter, provided that the non-compliance

has been corrected. If this same regulation or law is violated a second time, the offender will be subject to part of the maximum fine (\$250) for each violation. If this same regulation or law is violated a third time, the ND-MPIP may impose the full amount of the fine and refer the case to the state's attorney for criminal prosecution.

This penalty matrix was designed to use the full extent of the law only in cases when meat inspection laws or regulations are willfully violated or neglected. Our mission is to ensure that the meat products consumers buy are safe to eat and free of contamination. Enforcement activities are a necessary part to achieve this mission and to protect and ensure the quality of the meat supply throughout the state. Fining authority has always been in place for other regulatory areas of the Department. This enforcement tool has been used twice by the ND-MPIP since the law was enacted, which was August 1, 2009.